

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF WISCONSIN

METALCRAFT OF MAYVILLE, INC. d/b/a
SCAG POWER EQUIPMENT,

Case No. 2:16-CV-00903

Plaintiff,

v.

ARIENS COMPANY,

Defendant.

**Expert Report of Denis Del Ponte on the
Invalidity of the Patents-in-Suit**

**EXHIBIT
F**

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I have been retained by Ariens Company, the defendant in this case, to offer expert testimony regarding the validity of U.S. Patent Nos. 6,892,519 (the “’519 patent”) and 6,996,962 (the “’962 patent”) (together, the “Scag Patents”), which are owned by the Plaintiff Metalcraft of Mayville, Inc. d/b/a Scag Power Equipment (“Scag”). I provide this report of my opinions pursuant to Federal Rule of Civil Procedure 26(a)(2) and the Court’s order following scheduling conference (Dkt. No. 15).

I. Background and Qualifications

1. Attached as Exhibit A is my curriculum vitae.
2. In 1966, I received a B.S. in Mechanical Engineering from the University of Wisconsin.
3. I have decades of experience designing and developing lawn mowers, including years of experience designing flow-control structures like baffles. From 1974 to 2002, I worked in various positions at John Deere Consumer Products Division located in Horicon, WI. My first position at John Deere was in Manufacturing Engineering, where I was responsible for the design and implementation of manufacturing processes. Throughout the late 1970s and up to 1983, I grew to the level of Project Engineer, overseeing 15-20 engineers and other employees in the Manufacturing Engineering group.
4. I moved to John Deere’s Product Engineering group in 1983 as a Project Engineer, responsible for the design of Lawn and Garden Tractors. I was also responsible for managing 6-10 engineers. Beginning in 1988 and continuing through 1993, I served as Project Engineer for Mower Attachments and Walk-Behind Mowers. This responsibility covered rotary mowers for John Deere consumer and commercial mowing products, including systems for material collection and mulching. Our mission was to develop mowers and mower families for a

wide variety of equipment configurations, including ride-on and walk-behind mowing vehicles, serving both consumer and commercial markets in North America and Europe.

5. From 1993 until 2002, I was a Manager of Prototype Build and Product Test. In this capacity I was responsible for building engineering prototypes and conducting laboratory and field tests for John Deere Consumer Products. My staff included 12 engineers, 35 technicians and mechanics, several shop and field test supervisors, and 75-100 field test drivers. Lab testing included stress test, hot room/cold room test, environmental testing, vehicle stability, sound test, and safety and industry compliance testing. Field testing included durability testing and performance evaluations at several locations throughout North America. John Deere products, and occasionally competitive products, were tested and evaluated in actual field conditions.

6. Throughout the 1990s, I served as John Deere's representative to the Outdoor Power Equipment Institute (OPEI), a national trade association comprised of manufacturers and suppliers of commercial and consumer outdoor power equipment. Among other things, OPEI sets voluntary compliance and safety standards for all its members with respect to proper manufacturing and design for consumer protection.

7. I am an inventor on two patents: U.S. Patent No. 4,969,533 and U.S. Patent No. 5,036,650.

8. In the last four years I have testified as an expert at trial or by deposition in *Exmark Manufacturing Co. v. Briggs & Stratton Power Products*, Case No. 10cv00187-JFB-TDT (D. Neb. May 12, 2010) and filed a declaration in Reexamination No. 90/012,406 at the United States Patent & Trademark Office.

II. Scope of Work and Information Considered

9. Counsel for Ariens has requested that I review issues concerning the '519 and '962 patents and to offer my opinions on the patents-in-suit and the technology involved. I am being compensated for my time in this proceeding at a rate of \$400 per hour. My compensation is not dependent upon the outcome of this case.

10. In preparing my opinions in this report, I have relied on my own experience and knowledge. I have also relied on the documents set forth in Exhibit B.

III. Applicable Legal Standards and Principles

11. Although I am not an attorney, and I will not offer opinions regarding the law, I have been informed of certain principles of patent law that I have employed in arriving at my conclusions in this report.

12. The claims of a patent define, in words, the boundaries of the invention described and illustrated in the patent. There are two different types of patent claims. The first type is called an independent claim. An independent claim does not refer to any other claim of the patent. An independent claim is read separately to determine its scope. On the other hand, a dependent claim refers to at least one other claim in the patent and thus incorporates whatever that other claim says. Accordingly, to determine what a dependent claim covers, one must read both the dependent claim and the claim or claims to which it refers.

13. The terms used in patent claims should be given their ordinary and customary meaning, which is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention. However, I understand that courts may also construe claim terms to determine the scope and meaning of patent claims.

14. When a patent issues from the U.S. Patent and Trademark Office, the patent is entitled to a presumption of validity. I also understand that the presumption of validity can be overcome by clear and convincing evidence that the patent is not valid.

15. A patent claim is invalid for anticipation if a single prior art reference discloses each and every element of the claim. A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.

16. A claim is invalid as obvious if the differences between the subject matter patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. I understand that a number of factors may be considered in this analysis and that none is controlling. These factors include: (1) the scope and content of the prior art; (2) the differences between the claimed invention and the prior art; (3) the level of ordinary skill in the art; and (4) any relevant secondary considerations, including commercial success, copying by others, industry praise, unmet and unsolved needs, and failure of others. There are several rationales on which an obviousness determination may be based. For example, a claim is obvious if any of the following would lead a person of ordinary skill in the art to the claimed invention:

- a) Combining one or more prior art references that individually do not disclose every element of the claim, but when combined, disclose each and every element of the claim, and the prior art references provided some teaching, suggestion or motivation to combine those references;
- b) Combining elements according to known methods to yield predictable results;
- c) Simple substitution of one known element for another to obtain predictable results;

- d) Use of a known technique to improve similar devices, methods, or products in the same way;
- e) Applying a known technique to a known device, method, or product ready for improvement to yield predictable results;
- f) Obvious to try—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; and
- g) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art.

17. The validity of each claim must be separately evaluated. If one claim of a patent is invalidated, the remaining claims are not invalidated unless they are also anticipated or obvious in light of the prior art.

18. I understand that an invalidity analysis must be performed from the perspective of a person of ordinary skill in the art. The following criteria may be used to determine a person who would be considered one of ordinary skill in the art at the time the claimed invention was made: (1) educational level of the inventor; (2) the type of problems encountered in the art; (3) the prior art solutions to those problems; (4) the rapidity with which innovations are made; (5) the sophistication of the technology; and (6) the educational level of workers in the field.

19. I understand that Scag has proposed that a person of ordinary skill in the art is a mechanical engineer with at least five years of experience in the design and development of ride-on lawnmowers. I generally agree with this definition. I also note that, based on my education and experience, I would meet this definition.

20. Additional principles of patent law may be explained or alluded to as appropriate in other portions of my report.

IV. The Patents-in-Suit

21. I understand that Scag is asserting infringement of claims 8-20 and 24-25 of the '519 patent and claims 1-4 and 6-8 of the '962 patent. I understand that Scag claims a priority date for the asserted claims of no earlier than August 7, 2002.

22. The Scag Patents, which are both titled “Adjustable Baffle for Mowing Deck,” share a specification.¹ The Scag Patents relate to adjustable baffles used in lawnmower decks. A baffle is any device or structure used to control the flow of air or gas—here, the flow of air and grass off the blades of the mower. Baffles on the underside of mower decks, or the side of decks where cutting occurs, had known and predictable benefits. Specifically, as the shared specification of the Scag Patents states, it was “known to provide baffles on the underside of lawnmower cutting decks to create a desired airflow underneath the deck, to prevent air from blowing out the front of the deck, and to facilitate the mulching of grass.” '519 patent, 1:16-19.

23. The height of the baffle—or the distance the baffle extends from the underside of the deck toward the ground—was known to be a “critical variable” that had a “significant impact on the quality of the cut.” '519 patent, 1:22-25. The baffle height that gave the best quality cut was known to vary depending on the conditions, including “the type of grass being cut and the manner in which the deck is being used (e.g., side discharge, rear discharge, mulching, or bagging).” '519 patent, 1:25-27.

24. The Scag Patents respond to this known issue—that the optimal baffle height varies based on the conditions—by describing and claiming an adjustable baffle that could be selectively raised or lowered relative to the top wall of the mower deck. '519 patent, 1:31-64.

¹ For convenience and consistency, I will cite to the specification of the '519 patent, though note that the specification of the '962 patent describes the same subject matter.

This can be seen, for example, in claim 14 of the '519 patent, which is representative of the structures disclosed in the shared specification of the Scag Patents:

14. A mower deck securable to a lawnmower for movement over the ground, the lawnmower operable to rotate first and second cutting blades that are rotatably supported by first and second spindles for rotation in a plane that is substantially parallel to the ground, each cutting blade defining a cutting circle as the cutting blade rotates, the mower deck comprising:

a top wall;

a rear baffle extending from a rearward portion of the top wall toward the ground proximate the cutting circles;

a front baffle extending from a forward portion of the top wall toward the ground and cooperating with the rear baffle to at least partially define cutting chambers;

an adjustable baffle selectively mountable on the front baffle in first and second vertically spaced positions, with respect to the top wall to adjust a height of the adjustable baffle above the ground, the adjustable baffle including a flange spaced from the top wall and extending into the cutting chambers toward the cutting circles.

25. Figure 16 of the Scag Patents shows the underside of a mower deck. In that figure, an adjusted baffle is fastened to a front baffle using screws, with the front baffle having slots that allow the adjustable baffle to be raised or lowered:

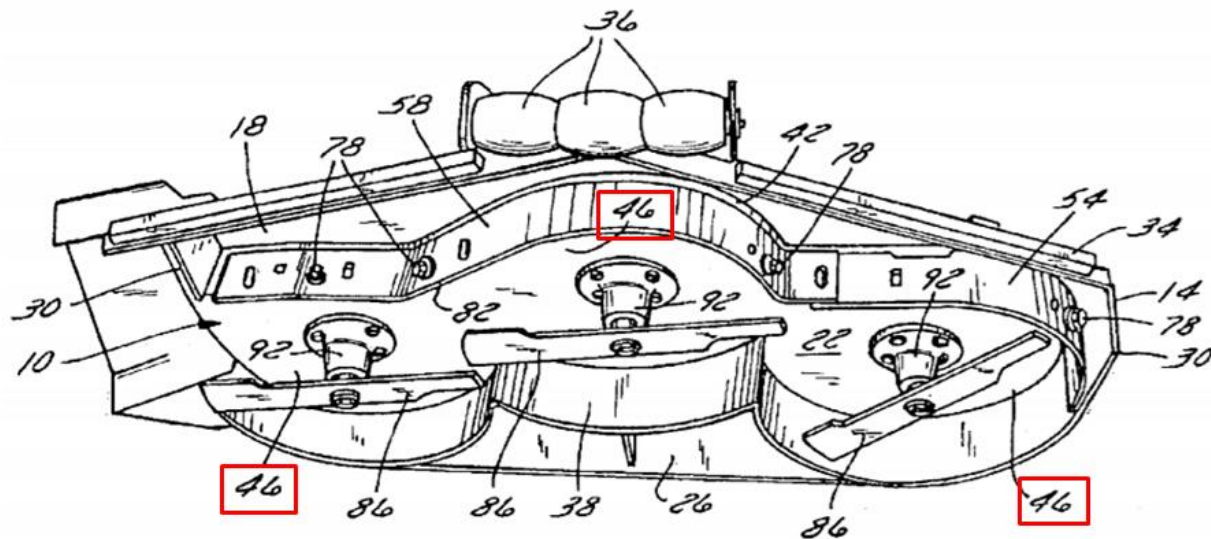


FIG. 1

27. The Scag Patents describe multiple embodiments that have variations of an adjustable baffle, including the embodiment in Figures 1-14 and 18, the embodiment in Figures 15-17, and the embodiment in Figure 19. In some embodiments, the adjustable baffle has a flange—or rim—that extends out from the adjustable baffle towards the cutting chambers of the mower deck. '519 patent, 1:62-64 & 6:64-7:23. The purpose of these flanges, as the Scag Patents describe, is “to reduce the undesirable blow out or expulsion of air and grass clippings from underneath the cutting deck ... during lawnmower operation.” '519 patent, 7:5-7. The specification puts no limitation on the size or shape of the flanges, saying “the specific size of the flanges is dependent” upon a number of factors. '519 patent, 7:9-11.

A. Claim Construction

28. I understand that the Court has issued an order on claim construction that construed three disputed claim terms in the Scag Patents: “adjustable baffle,” “front baffle,” and “rear baffle.” The Court construed (1) “adjustable baffle” as “a movable baffle,” (2) “front

baffle” as “a baffle that extends from a forward portion of the top wall,” and (3) “rear baffle” as “a baffle that extends from a rearward portion of the top wall.”

29. I understand that the Court specifically rejected Scag’s argument that a “baffle” was required to be spaced apart from the perimeter of the mower deck. Instead, the Court concluded that a person of ordinary skill in the art would *not* read the claims of the Scag Patents to require that baffles be separated from the walls of the mower deck. The Court acknowledged that Scag was making its argument in an attempt to “have a stronger argument against invalidity, in that the claims in its patents would not read on Ariens’ prior-art reference,” but rejected the argument anyway. Court’s Claim Construction Order (January 4, 2018), at 3. Under the Court’s claim construction, therefore, the front wall of the mower deck can also be a baffle.

B. Prosecution History of the Scag Patents

30. The Scag Patents claim priority to two provisional applications, U.S. Provisional Nos. 60/348,433 and 60/401,536, filed on January 14, 2002 and August 7, 2002, respectively.

31. The application that issued as the ’519 patent, U.S. Appl. No. 10/342,123, was filed on January 14, 2003. The Examiner entered the first (and only) Office Action on February 13, 2004, rejecting all except two of the then-pending claims as anticipated by U.S. Patent No. 5,845,475, which lists Gary Busboom as an inventor (the “Busboom Patent”), or rendered obvious by the Busboom Patent in light of U.S. Patent No. 5,035,108 (the “Meyer Patent”). The applicants responded on April 4, 2004 by amending the pending claims to recite that the adjustable baffle be selectively mounted in at least two vertically spaced positions—i.e., that it could be raised or lowered. They argued that this made the claims patentable over Busboom, because Busboom had “removable baffles [that] cannot be mounted in place in two or more vertically spaced positions as claimed, nor do they extend the claimed depth relative to the front

baffle.” Three months later, in July 2004, the Examiner entered a Notice of Allowance. The ’519 patent issued on May 17, 2005.

32. The application that issued as the ’962 patent, U.S. Appl. No. 11/037,974, was a continuation of the application that issued as the ’519 patent. It was filed on January 18, 2005. The Examiner entered the first (and again the only) Office Action on April 11, 2005, rejecting all the then-pending claims as anticipated by U.S. Patent No. 5,191,756 (the “Kuhn Patent”) or rendered obvious by the Kuhn Patent in light of U.S. Patent No. 5,457,947 (the “Samejima Patent”). The applicants responded on August 15, 2005 by amending their claims and arguing that the Kuhn Patent does not teach “a baffle that can be repositioned to vary the size of the cutting chamber.” The Examiner then entered a Notice of Allowance on September 7, 2005. The ’962 patent issued on February 14, 2006.

33. The Examiner did not cite to or rely on either the Snapper Mower or the Toro Mower during prosecution of either Scag Patent. Neither mower, which were both on sale before the priority date of the asserted claims, is listed on the face of either Scag Patent as being cited during prosecution.

C. Reexamination of the ’962 Patent

34. On July 28, 2017, Scag filed a Request for Ex Parte Reexamination of its own ’962 patent. According to Scag’s request, there was a “substantial” question whether the two independent claims of the ’962 patent, claims 1 and 8, were valid over the prior art.

35. Scag’s request presented numerous reasons for why it was uncertain whether the claims were valid. As shown below, the request presented five reasons why there is a substantial question about claim 1’s validity and five reasons why there is a substantial question about claim 8’s validity (where the ’475 Patent refers to the Busboom Patent):

A first substantial new question of patentability of claim 1 is raised by the '475 Patent in view of Toro Z-Master PC.

A second substantial new question of patentability of claim 1 is raised by the '475 Patent in view of Snapper Mid-Mount SM.

A third new question of patentability of claim 1 is raised by the '475 Patent in view of PM Snapper Mid-Mount.

A fourth substantial new question of patentability of claim 1 is raised by the '475 Patent in view of Dixie Chopper PM.

A fifth substantial new question of patentability of claim 1 is raised by the '475 Patent in view of U.S. Patent No. 2,659,191.

A first substantial new question of patentability of claim 8 is raised by the '475 Patent in view of Toro Z-Master PC.

A second substantial new question of patentability of claim 8 is raised by the '475 Patent in view of the Toro Z-Master PC and further in view of the '564 Patent.

A third substantial new question of patentability of claim 8 is raised by the '475 Patent in view of Toro Z-Master PC and further in view of the John Deere Publication.

A fourth substantial new question of patentability of claim 8 is raised by the '475 Patent in view of Toro Z-Master PC and further in view of Ingersoll 5000 Series Mower.

A fifth substantial new question of patentability of claim 8 is raised by the '475 Patent in view of the '132 Patent.

36. As can be seen above, none of the “substantial” questions of patentability in Scag’s request used either the Toro or Snapper Mower as the primary prior art reference. All of the invalidity grounds raised in the request used the Busboom Patent as the primary reference.

37. With its request, Scag submitted a preliminary amendment that narrowed the claims. The amendments to claims 1 and 8 added limitations that the adjustable baffle had to be spaced apart, or rearward, from the front wall of the mower deck, as shown below:

1. (Amended) A mower deck comprising:
 - a top wall having a bottom surface;
 - a rear baffle that extends below the bottom surface of the top wall and that at least partially surrounds and defines at least two cutting chambers;
 - a cutting blade located in each of the cutting chambers;
 - a front wall that extends below the bottom surface of the top wall in front of the cutting blades to a bottom edge that extends at least essentially in a common plane from a first end of the front wall to a second end of the front wall, the front wall being non-removably coupled to the top wall; [and]
 - a baffle weldment that extends below the bottom surface of the top wall and that is located rearward of the front wall and forward of at least one of the cutting chambers; and
 - an adjustable baffle that is attached to the baffle weldment, that extends below the bottom surface of the top wall in front of at least one entire cutting chamber and that is selectively movable relative to the front wall, the adjustable baffle being repositionable on the deck in at least two positions such that the size of at least one of the cutting chambers is variable, a discharge opening being formed in the cutter deck behind the adjustable baffle and expelling cut grass clippings from the mower deck during mower operation.

8. (Amended) A mower deck comprising:
- a top wall having a bottom surface;
 - a rear baffle that extends below the bottom surface of the top wall and that at least partially surrounds and defines at least two cutting chambers;
 - a cutting blade located in each of the cutting chambers;
 - a front wall that is non-removably coupled to the top wall and that extends below the bottom surface of the top wall in front of the cutting blades to a bottom edge that extends at least essentially in a common plane from a first end of the front wall to a second end of the front wall;
 - an adjustable baffle that extends below the bottom surface of the top wall at a location rearward of the front wall and in front of at least one entire cutting chamber and that is selectively movable relative to the front wall, the adjustable baffle being repositionable on the deck in at least two positions such that the size of at least one of the cutting chambers is variable, a discharge opening being formed in the cutter deck and being at least substantially unobstructed by the adjustable baffle;
 - a sidewall that extends below the bottom surface of the top wall on one side of the cutter deck; and
 - a side-discharge opening that is located opposite the sidewall, wherein a path extends uninterrupted along the bottom surface of the top wall through the cutting chambers and out of the discharge opening.

38. Scag did not even argue that the claims at issue in this litigation, the un-amended claims, were valid. Instead, Scag argued only that “Claims 1 and 8 as amended herein are considered patentable over each of the references” Proposed Amendment, U.S. Appl. No. 90/013,976, page 4 of 5 (June 28, 2017) (my emphasis added).

39. On August 7, 2017, the Patent Office granted Scag’s request for reexamination, agreeing with Scag that there was a substantial question of whether the claims of the ’962 patent were invalid. On December 20, 2017, the Patent Office entered an Office Action rejecting all of the claims as invalid on a number of different grounds.

40. On February 20, 2018, Scag responded to the rejection. Once again, Scag argued only that the claims as amended were valid over the cited prior art. For example, at page 5 of its

response to the Office Action, Scag states: “For at least the reasons set forth below, claims 1 and 8 as amended in the paper filed June 28, 2017 are believed patentable over the applied art and in condition for allowance.” Scag made no separate argument that the un-amended claims, which are the claims that it continues to assert in this litigation, are valid over the prior art.

41. As of April 6, 2018, the reexamination of the ’962 patent is still pending. Whether or not the Patent Office finds the amended claims to be patentable, the Patent Office will *not* find the claims at issue here to be patentable. In the reexamination, Scag narrowed its claims by adding limitations that require the adjustable baffle be spaced rearward of the front wall. Scag never even tried to argue that the claims it asserts in this lawsuit were valid over the prior art. I therefore reserve the right to modify or update any opinion in this report and supplement or amend this report if the Patent Office allows narrowed claims of the ’962 patent to issue after the reexamination.

V. State of the Relevant Art

42. A bit of background in the “state of the art” may be helpful to understand the knowledge that was available to person of ordinary skill in the art as of the priority date of the patents-in-suit. There was a rich body of prior art from which inventors in this field could draw. By 2002, there was an established toolbox of elements that a person of ordinary skill would have used for lawnmower decks. As I describe more below, each of those elements was well-known and would provide predictable results to one of ordinary skill in the art.

43. Much like the blades in a fan, the blades in a mower create airflow when they rotate. The resulting airflow off the blades is crucial to how mowers operate. The mower blades are designed to produce an upwards airflow to help stand the grass up before it is cut. U.S. Patent 5,791,132 (the “Wiedenmann Patent”), describes how the airflow “causes the material to be mowed [i.e., the grass] to stand upright,” so that “the mowed material is lifted up above the

mowing plane of the mowing blade.” 1:38-46. Thus, airflow plays an important role in how well a mower cuts grass, which is referred to as cut quality.

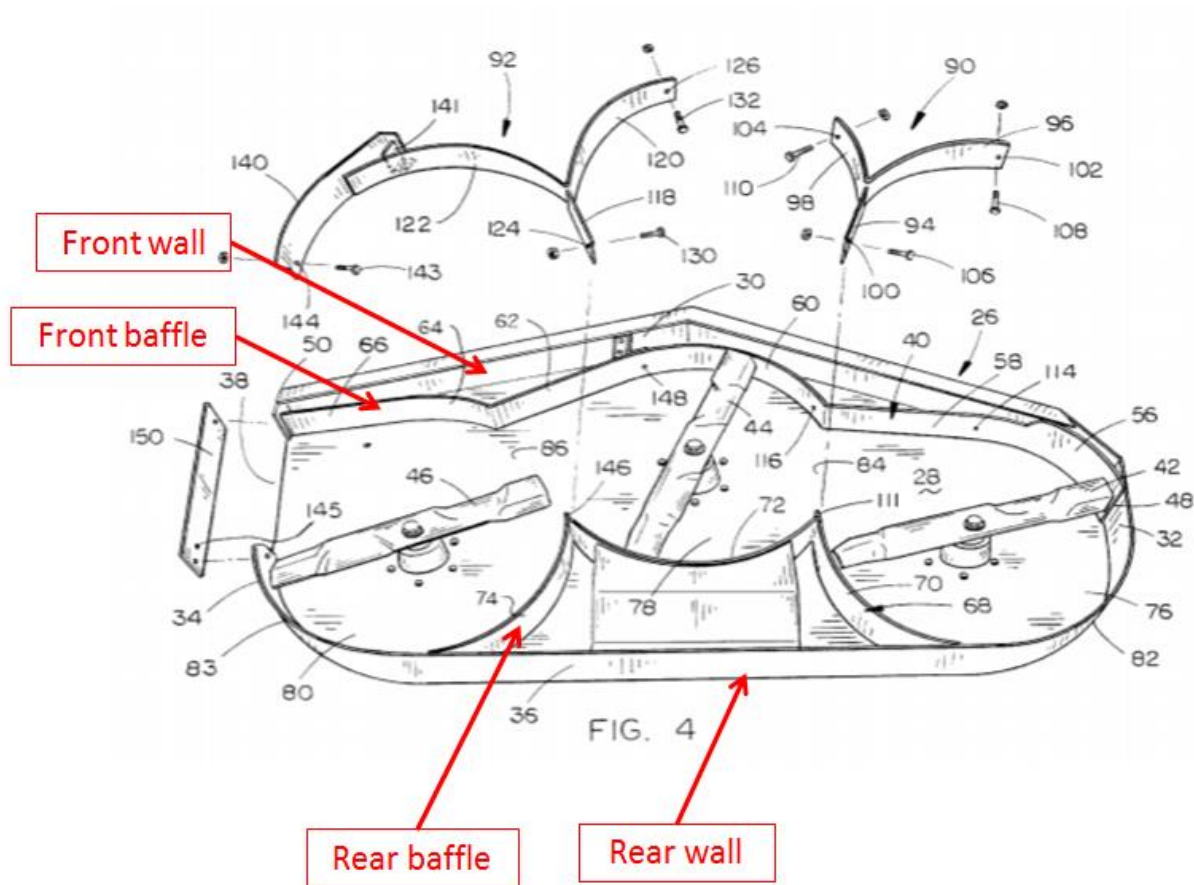
44. The airflow also plays an important role in moving the grass clippings around—and eventually out of—the mower once the grass has been cut. Mowers had multiple modes of operation, and some “convertible” mowers were designed to convert between different modes of operation, which included (1) side discharge, (2) collection, or (3) mulching. In side discharge mode, the airflow is optimized for cut quality and clipping dispersal. The goal is simply to cut grass and transport clippings from the blade furthest from the side discharge towards the adjacent blade path and eventually out the discharge opening. In collection mode, airflow is optimized for cut quality and transfer of clippings, usually through a chute and into a collection bag or hopper. A collection system usually produces more back pressure and restricts airflow. To address this, blades are installed that create an even greater upwards airflow, usually with the adverse effect of “blow out” or discharging air beyond the walls of the mower deck (or “housing”). In mulching mode, airflow in a side discharge mower is essentially blocked at the discharge chute forcing the air to “swirl” around within the housing so as to keep clippings in suspension for repeated cutting before eventually dropping to the turf.

45. Cut quality is also very dependent on grass conditions, including the type of grass, moisture content, and lushness of grass. The goal of designing mowers is to optimize all parameters that affect cut quality and to do so across a wide range of cutting conditions. Based on my experience, the best method to design mowers is through a trial and error methodology, using established structures for their well-known and predictable functions, as it is extremely difficult to accurately model air flow under a mower deck. Trial and error design methodology is routine throughout the mower industry. A person of ordinary skill typically would design and

develop new mowers by using established mechanical structures for their well-known purposes. When designing a new mower deck, a person of ordinary skill would start with what was known.

46. There were a number of well-known structures that a person of ordinary skill could use to control airflow off the blades, including baffles and flanges. When designing and developing mowers, a person of ordinary skill would be concerned with the structures that control the flow of air off the blades. A person of ordinary skill would not take a formalistic approach that is concerned with terminology—whether a particular structure should be called a baffle, wall, lip, or flange—but would instead adopt a functional approach that focuses on the structural characteristics of the flow-control structures. The precise terminology would not concern a person of ordinary skill.

47. Flow-control baffles at the front of the cutting chamber were well-known in the prior art. The Busboom Patent is one example of a mower having a flow control baffle to control airflow off the blades (as shown below in Figure 4 of the Busboom Patent).



48. Numerous other prior art references disclosed flow control baffles. The Dixie Chopper XW2002 Mower had a front wall that functioned as a baffle, with an adjustable baffle secured to it, as shown at S000305 of the Parts Manual. (See also S000309-312 for photos of the front wall of the Dixie Chopper.) The Dixie Chopper's adjustable baffle was a flow-control structure that worked to control the airflow off the blades. Similarly, a John Deere catalog shows a mower that would have been representative of the types of mower decks available as of 2002: a three-blade mower where the mower deck has both a front wall and a separate front flow-control baffle, as shown at S000676 of the John Deere catalog:



49. Adjustable baffles at the front of the cutting chamber were also well-known in the prior art. For example, both the Snapper Mid-Mount Z-Rider and the Toro Professional 74203, Z255 Z Master, described in detail below at §§ VI & VII, respectively, had adjustable baffles that secured to the front portion of cutting chambers. Raising or lowering the adjustable baffles on these prior art mowers would vary the depth of the cutting chamber, having a large effect on the quality of the cut and the airflow off the blades. The Wiedenmann Patent also discloses a “skirt”—which is just a wall or baffle—that “can be adjusted as to its spacing from the ground.” 2:58-65; see also 1:29-37:

In a preferred embodiment the skirts are vertically adjustable ... relative to the surface of the ground ...; in particular the skirts are formed in two parts, namely in such a manner that the portion of the skirts which is closest to the ground to be treated is adjustable, relative to a base portion which is fixedly attached to the mower housing, preferably by means of slots oriented perpendicularly to the ground and connecting bolts extending through them.

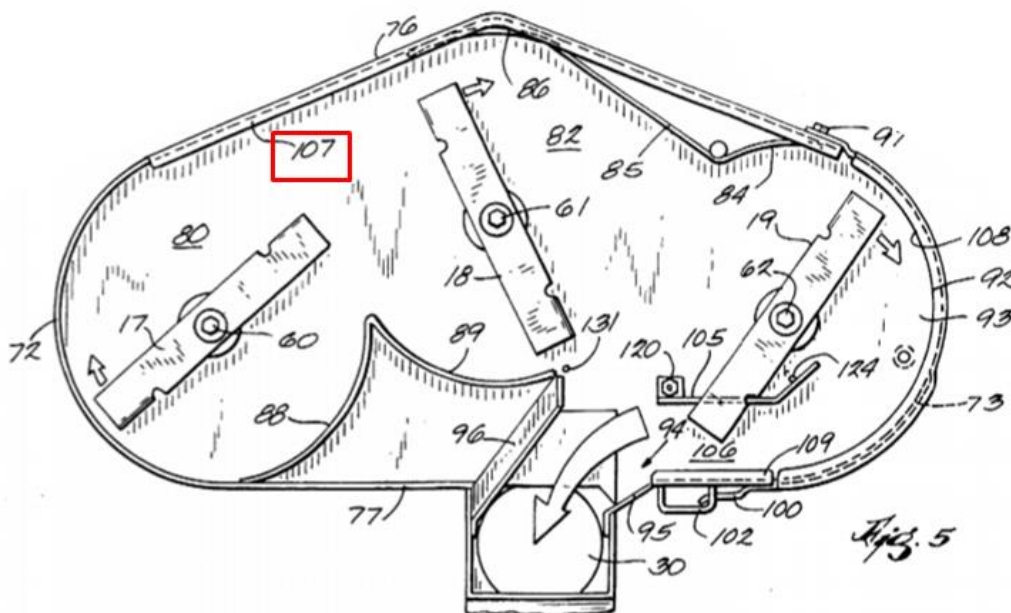
50. Flanges were also a well-known structure that could predictably be used to control airflow off the blade. Flanges have been used for this purpose since at least 1951, when U.S. Patent No. 2,659,191 issued. The '191 patent teaches a mower having flanges at the front portion that extend into the cutting chamber, saying at 3:43-46 & 4:12-17:

Rigidly secured to the lower edge of the attachment flange is the air current directing flange ... which extends inwardly toward the shaft disposed centrally of the housing....

....

I have found that by providing a small flange along the forward wall portion only of the housing, the air currents again will be directed upwardly to prevent the discharge of partially comminuted material ahead of the machine.

51. Flanges came in a variety of shapes and sizes. Some were relatively large triangular or trapezoidal shaped structures that extended far into the cutting chambers, while others were smaller rims or lips that did not extend as far. In general, a person of ordinary skill would use the term flange to describe any structure that is part of or attached to a wall of the cutting chamber that extends into the cutting chamber for the purpose of controlling airflow off the blade. For example, U.S. Patent No. 6,192,666, with David Sugden listed as the first inventor (the “Sugden Patent”), teaches a flange 107 attached to the front wall of the mower deck to control airflow, where the flange 107 is a rim or lip that turns inward from the front wall towards the cutting chamber:



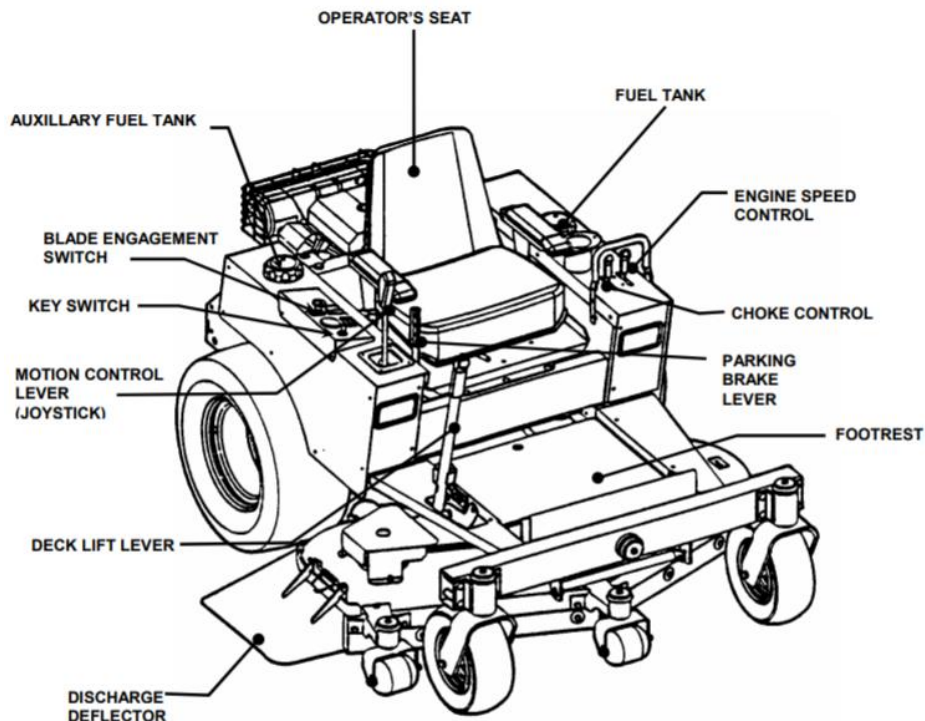
52. A person of ordinary skill would understand, as the Sugden Patent teaches, that the flange 107 produces a desirable flow of air off the blades. Sugden Patent, 5:27-31. Other structures with different shapes or sizes were also commonly referred to as flanges. See, for example, US. Patent Nos. 2,659,191 & 5,465,564. Once again, what would matter to a person of ordinary skill is what structures are controlling airflow – not the formal terminology.

VI. The Snapper Mid-Mount Z-Rider Anticipates All of the Asserted Claims

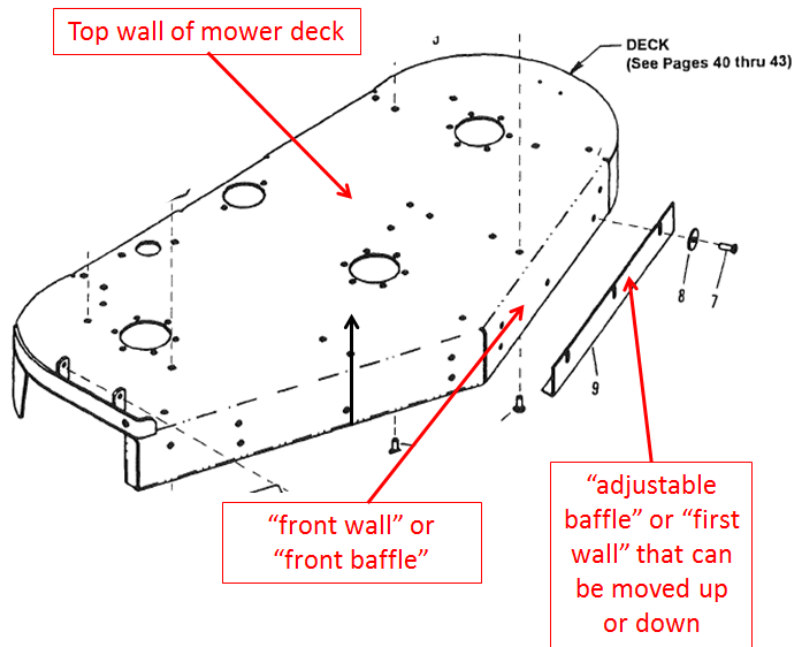
53. The Snapper Mid-Mount Z-Rider (“Snapper Mower”) was publicly available for commercial sale in the United States in or before 1999. It is prior art to the asserted claims, which Scag has acknowledged are entitled to a priority date of no earlier than August 7, 2002. The Snapper Mower anticipates every asserted claim. The claim chart attached as Exhibit C shows element-by-element how the Snapper Mower anticipates claims 8-20 and 24-25 of the ’519 patent and claims 1-4 and 6-8 of the ’962 patent.

54. There are a number of documents that disclose the features of the Snapper Mower, including a Safety Instructions & Operator’s Manual (BASCO0092), a Parts Manual (BASCO0228), a Service Manual (BASCO0014), production drawings (including BASCO0442-0444), and exhibits to a declaration submitted by William Lowe, a Program Manager at the company that ultimately acquired Snapper.

55. The Snapper Mower was a riding mower, where the user rides on top of a mowing deck. As shown in its Safety Instructions & Operators Manual at BASCO0092, the Snapper Mower had a seat for the user, an engine speed control, a motion control lever (or joystick), and a mowing deck:



56. As relevant here, the Snapper Mower had two mowing deck models: ZM5200M, a 52 inch mowing deck, and ZM6100M, a 61 inch mowing deck. BASCO0017. Both models had an adjustable baffle that attached to the front of the mowing deck and extended below the deck. The adjustable baffle had slots, which allowed it to be raised or lowered relative to the front wall. In the figure below, which is from BASCO0271 of the Parts Manual, I show how the adjustable baffle (also referred to by certain claims as a “first wall”) attaches to the front wall (also referred to by certain claims as a “front baffle”). Though the image below only shows one adjustable baffle, the Snapper Mower in fact had two—one on each side. This is confirmed, for example, by the Parts Manual, which states that the Snapper Mower has two baffle pieces labelled as 9 in the image below. BASCO0272.



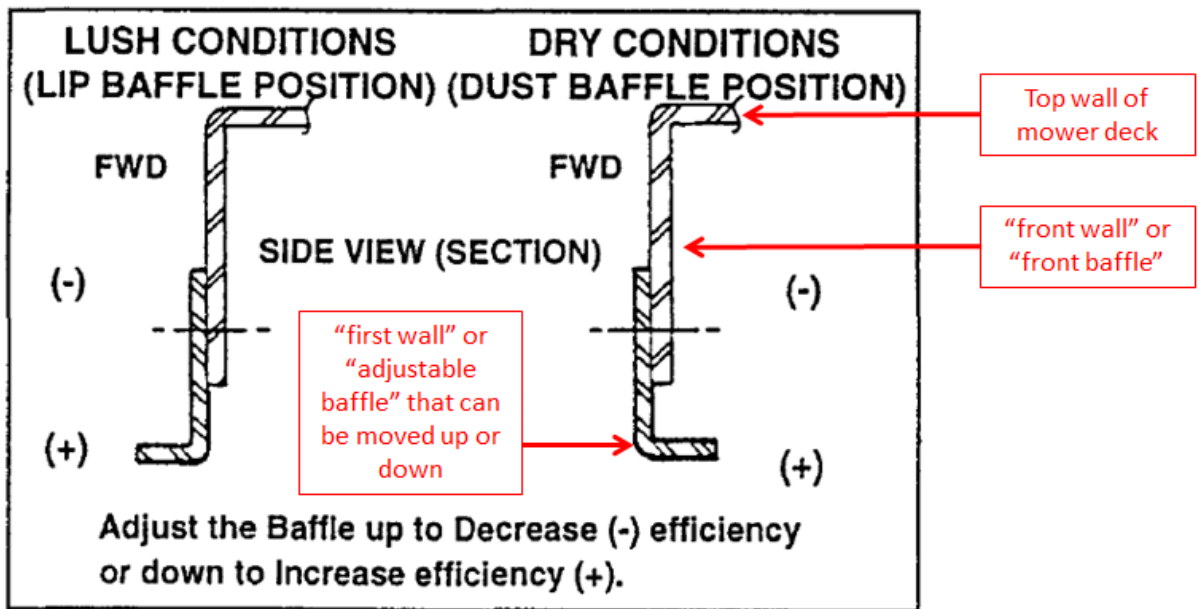
57. In the image above, I’ve shown how the front wall of the deck meets the limitation in the asserted claims of a “front wall” or “front baffle,” depending on the claim. Similarly, the structure that can be raised or lowered relative to the top wall of the mower deck is referred to in different claims as an “adjustable baffle” or “first wall.”

58. The Snapper Mower Had a “Front Wall” or “Front Baffle.” The Snapper Mower meets claim limitations in the asserted claims that recite either a “front wall” or a “front baffle.” With respect to the “front wall” claim limitations, the front wall of the Snapper Mower is clearly a “a front wall that extends below the bottom surface of the top wall in front of the cutting blades,” as recited by claim 25 of the ’519 patent and claim 1 of the ’962 patent, or a “a front wall that is non-removably coupled to the top wall and that extends below the bottom surface of the top wall in front of the cutting blades,” as recited by claim 8 of the ’962 patent. Likewise, the front wall also meets the “front baffle” limitations, which the Court has interpreted to mean “a baffle that extends from a forward portion of the top wall.” The term does not require that a “front baffle” be spaced apart from the perimeter of the mower deck. The structure I identify

above meets this limitation—it is a baffle that extends from a forward portion of the top wall. Thus, regardless of whether the structure is referred to as a “front wall” or a “front baffle,” the Snapper Mower meets the claim limitation under the Court’s claim construction.

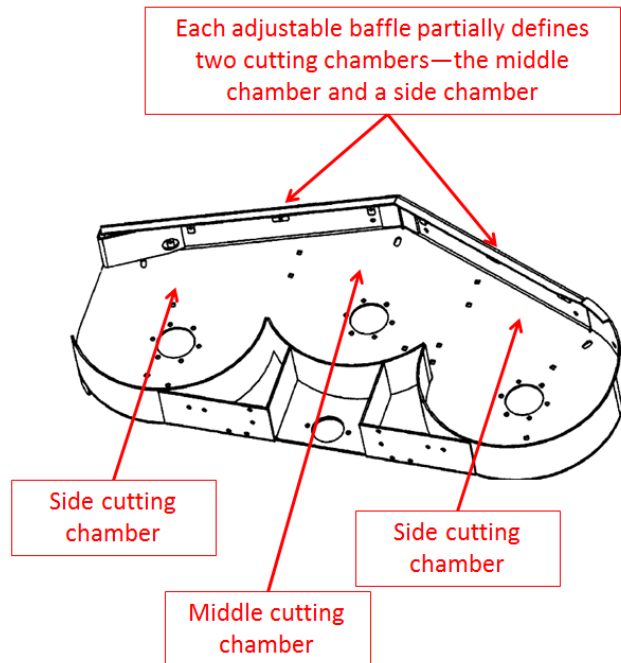
59. The Snapper Mower Had a “First Wall” or “Adjustable Baffle.” The Snapper Mower meets claim limitations in the asserted claims that recite either a “first wall” or an “adjustable baffle.” The asserted claims use the terms interchangeably. For example, claim 8 of the ’519 patent recites “a first wall that is selectively mountable to the front baffle,” while claim 14 of the ’519 refers to those same structures as “an adjustable baffle selectively mountable on the front baffle.” The Court has interpreted the term “adjustable baffle” to mean a “movable baffle,” with no requirement that it be spaced apart from the perimeter of the mower deck. The adjustable baffle of the Snapper Mower meets this limitation—as described in detail below, it can be raised or lowered relative to the mower deck.

60. The Snapper Mower’s adjustable baffle could be raised or lowered. The adjustable baffle has a series of slots that allow it to be raised or lowered relative to the front baffle to which it secures. Raising or lowering the adjustable baffle would affect airflow off the blades. As shown below, the Service Manual at BASCO0079 teaches raising the adjustable baffle up to “Decrease ... efficiency” and lowering it down to “Increase efficiency.”

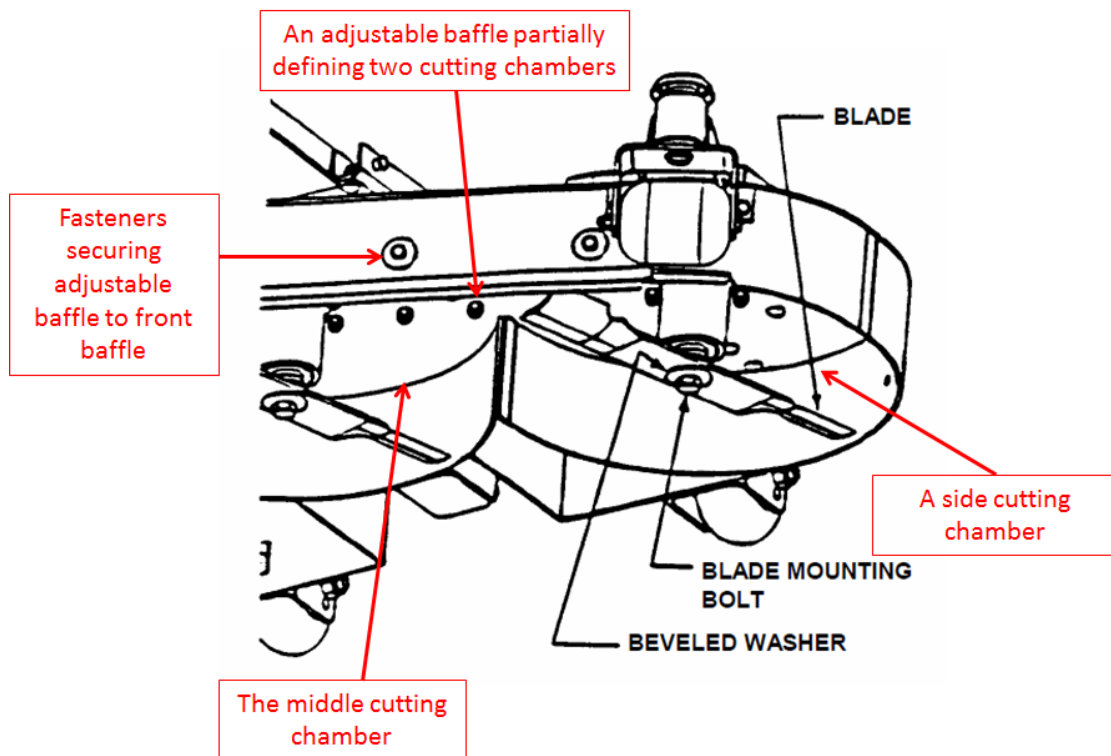


61. Each of the Two Adjustable Baffles Partially Defined Two Cutting Chambers.

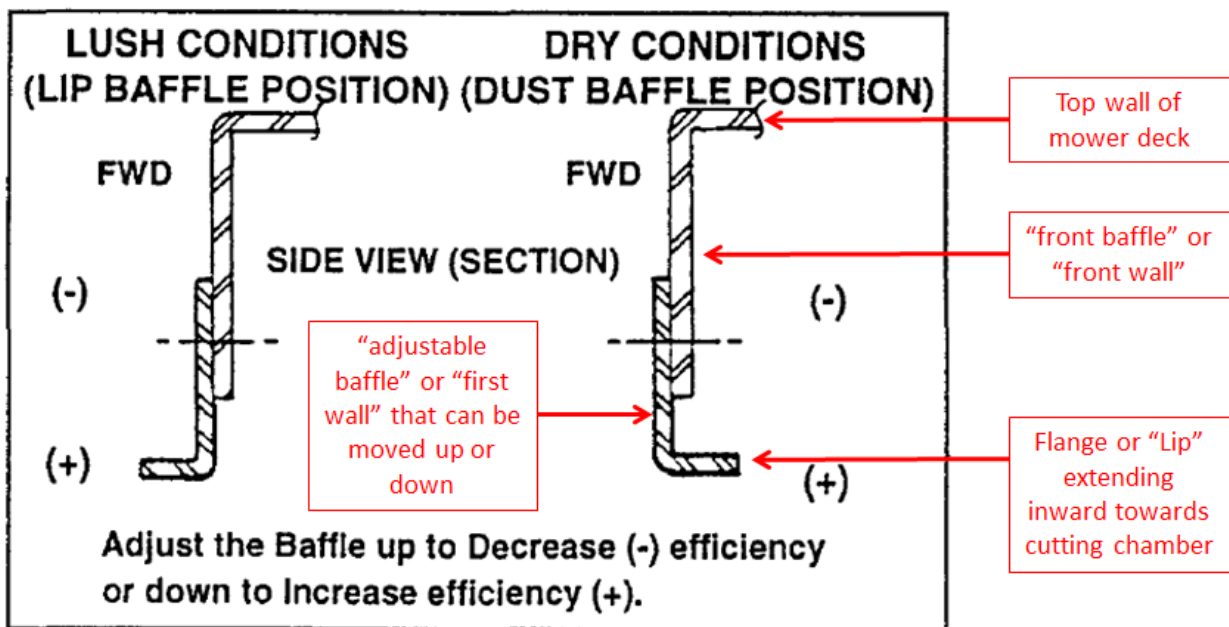
The Snapper Mower had three cutting blades, each with its own cutting chamber. BASCO0109; BASCO0071-0089; BASCO0442. The production drawing at BASCO0442, which shows the bottom of the mower deck, demonstrates how each adjustable baffle partially defined two cutting chambers—the middle cutting chamber and one of the two side cutting chambers:



62. The Safety Instructions & Operator's Manual, at BASCO0109, also shows how each adjustable baffle partially defined two cutting chambers:



63. The Adjustable Baffle Had a Flange That Was Substantially Parallel to the Top Wall of the Mower Deck and That Extended Towards the Cutting Chambers. Each adjustable baffle had a flange, or a rim, that extended from the bottom edge of the adjustable baffle towards the cutting chamber. As shown in the Service Manual at BASCO0079, the adjustable baffle had a flange or rim, which the Service Manual calls a “Lip,” that was parallel to the top wall of the mower deck.

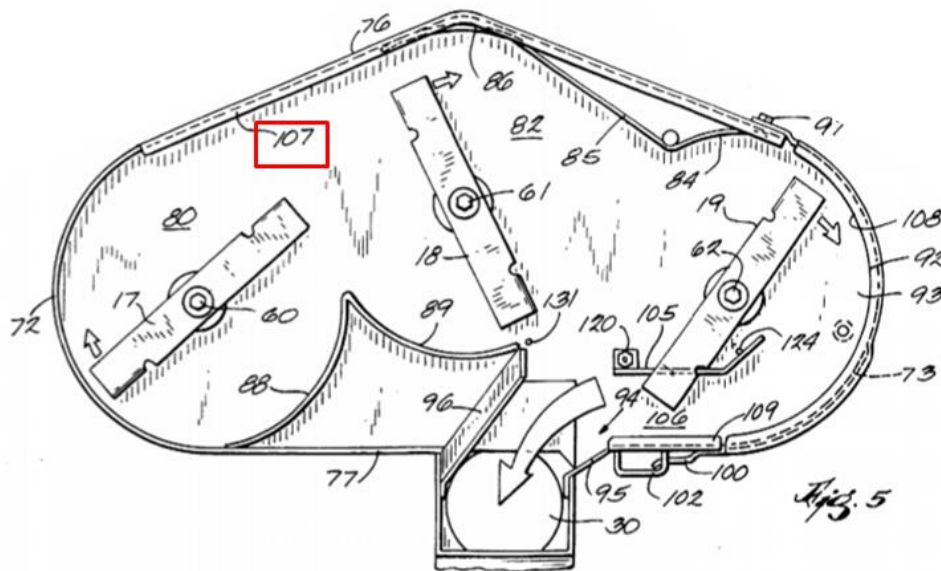


64. The Service Manual taught to face the flange (or “Lip”) “Inward,” or towards the cutting chamber, to “help prevent dusting conditions” and to “pull dust into the Mower Deck and out [the] Discharge Chute.” BASCO0079.

65. I understand that Scag, in its Non-Invalidity Contentions, has argued that the Snapper Mower’s “Lip” is not a “flange” as claimed by the ’519 and ’962 patents. I disagree. The term “flange” has no special or limited meaning to a person or ordinary skill in this art. It is a very broad term that covers any and all ribs, rims, or lips. The shared specification of the ’519 and ’962 patents that does not re-define the term or disclaim any of its breadth. ’519 patent,

6:64-7:23. Scag identifies only one reason why the “Lip” of the Snapper Mower should not be considered a “flange,” saying that the “Lip” does not reduce undesirable expulsion of air and grass clippings from the mower deck. Scag, however, is wrong. The Service Manual for the Snapper Mower specifically states that the “Lip” should be turned inward to prevent dusting and to pull dust into the Mower Deck. BASCO0079. Thus, when turned inward as the Service Manual instructs, the “Lip” of the Snapper Mower would help reduce undesirable expulsion of air and grass clippings. As I describe in detail in the claim chart attached as Exhibit C, the flange or “Lip” of the Snapper Mower meets every structural and functional claim limitation involving flanges. In deciding whether a particular structure is present, a person of ordinary skill would focus on those structural and functional characteristics—what is it and what it does—rather than on the formal name it is called.

66. The Sugden Patent demonstrates that a person of ordinary skill would consider the Snapper Mower’s “Lip” to be a flange. The Sugden Patent teaches a flange 107 that is nearly identical to the Snapper Mower’s “Lip,” as seen in Figure 5 below:



67. As the Sugden Patent teaches, flanges like flange 107 (which is nearly identical to the Snapper Mower's "Lip") provide a desirable airflow off the blades. Sugden Patent, 5:27-31. The flange 107, just like the Snapper Mower's "Lip," would control airflow off the blades and prevent air and grass clippings from being expelled out from under the front wall of the mower deck.

68. The Sugden Patent and its terminology would have been familiar to the inventors of the Scag Patents, as the two inventors of the Scag Patents—David Sugden and Kevin Boeck—were also listed as inventors on the Sugden Patent. The Sugden Patent's use of the term "flange" therefore would have been familiar to the inventors of the Scag Patents.

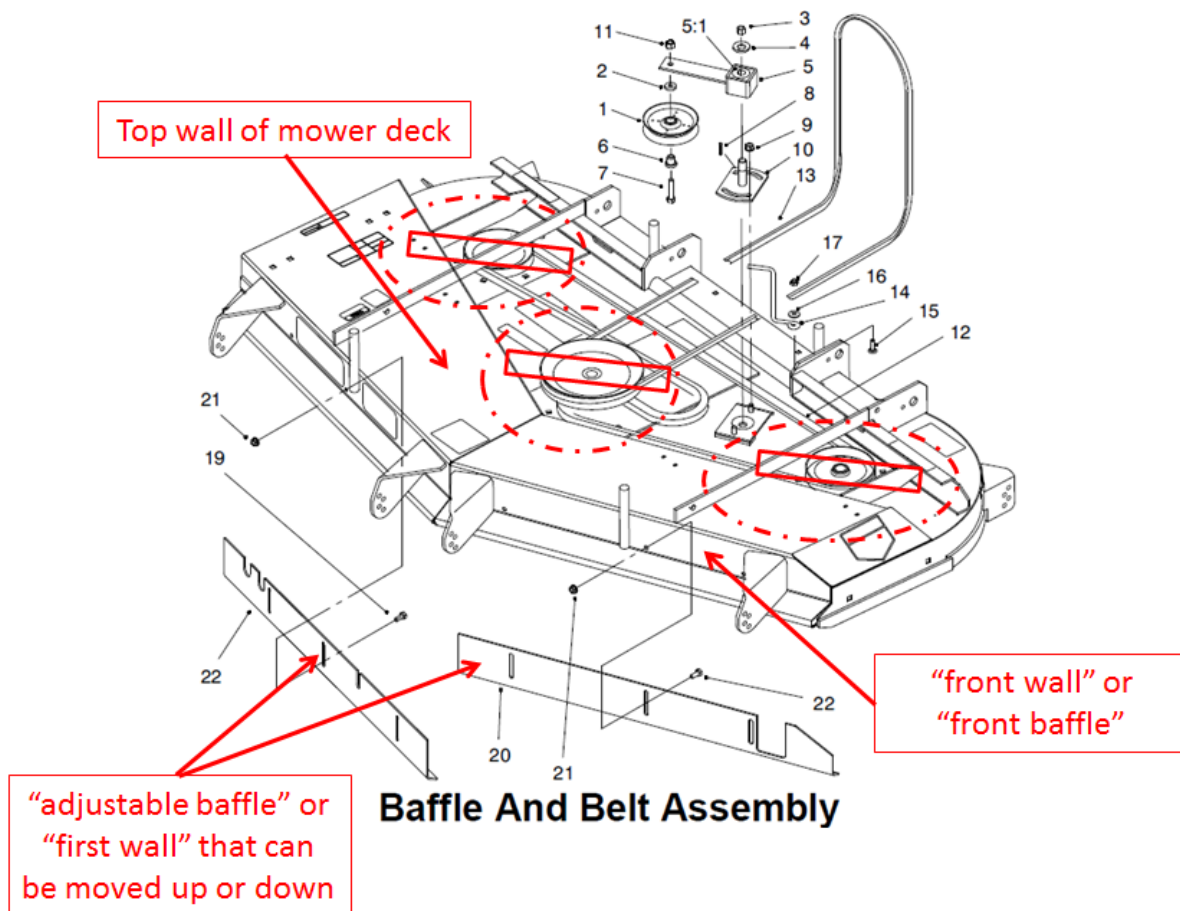
69. Accordingly, as I describe in detail in the claim chart attached as Exhibit C, it is my opinion that the Snapper Mower anticipates all of the asserted claims.

VII. The Toro Professional 74203, Z255 Z Master Anticipates All of the Asserted Claims

70. The Toro Professional 74203, Z255 Z Master ("Toro Mower") was publicly available for commercial sale in the United States in or before 1999. It is prior art to the asserted claims, which Scag has acknowledged are entitled to a priority date of no earlier than August 7, 2002. The Toro Mower anticipates every asserted claim. The claim chart attached as Exhibit D shows element-by-element how the Toro Mower anticipates claims 8-20 and 24-25 of the '519 patent and claims 1-4 and 6-8 of the '962 patent.

71. There are a number of documents that disclose the features of the Toro Mower, including the 1999 Parts Catalog (TORO000001), the 2000 Parts Catalog (TORO000033), and numerous other exhibits to a declaration submitted by a Senior Engineering Manager with the Toro Company, James Fear, which included Toro Landscape Contractor Equipment Catalogs with copyright dates of 1998 and 1999.

72. The Toro Mower, like the Snapper Mower, was a riding mower, where the user could ride on top of the mower deck. The Toro Mower had a 62 inch, side discharge mower deck, as seen in the 1999 and 2000 Parts Catalogs, TORO000001 and TORO000033, respectively. The mower deck had an adjustable baffle that attached to the front of the deck and extended below the deck. The adjustable baffle had slots, which allowed it to be raised or lowered relative to the front wall. In the figure below, which is from TORO000049 of the 2000 Parts Catalog, I show how the adjustable baffle (also referred to by certain claims as a “first wall”) attaches to the front wall (also referred to by certain claims as a “front baffle”) (a nearly identical image is in the 1999 Parts Catalog, at TORO000018).



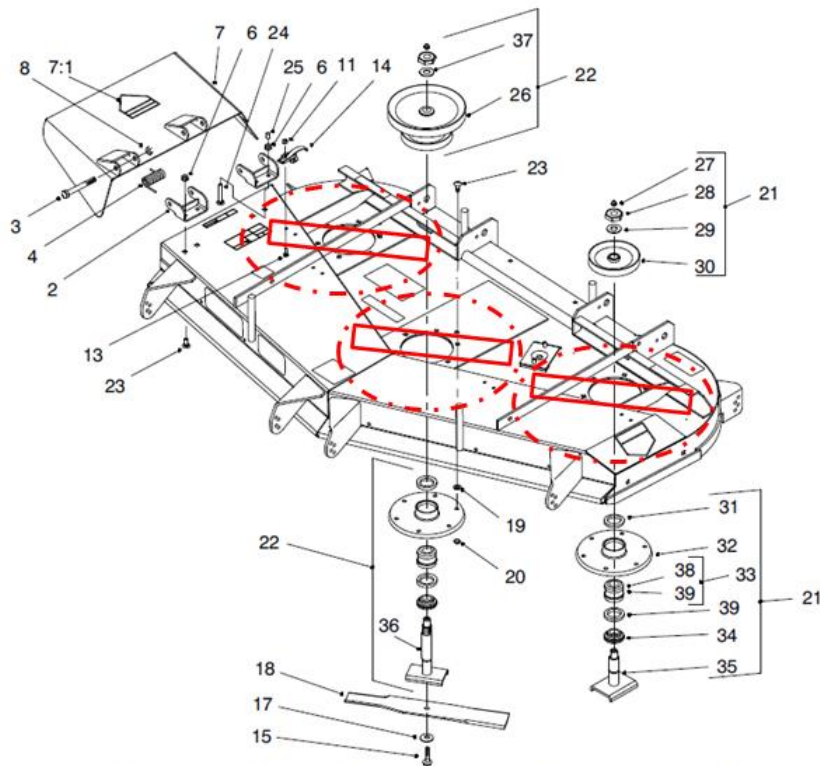
73. In the image above, I've shown how the front wall of the deck meets the limitation in the asserted claims of a "front wall" or "front baffle," depending on the claim. Similarly, the structure that can be raised or lowered relative to the top wall of the mower deck is referred to in different claims as an "adjustable baffle" or "first wall."

74. The Toro Mower Had a "Front Wall" or "Front Baffle." The Toro Mower meets claim limitations in the asserted claims that recite either a "front wall" or a "front baffle." With respect to the "front wall" claim limitations, the front wall of the Toro Mower is clearly "a front wall that extends below the bottom surface of the top wall in front of the cutting blades," as recited by claim 25 of the '519 patent and claim 1 of the '962 patent, or a "a front wall that is non-removably coupled to the top wall and that extends below the bottom surface of the top wall in front of the cutting blades," as recited by claim 8 of the '962 patent. Likewise, the front wall also meets the "front baffle" limitations, which the Court has interpreted to mean "a baffle that extends from a forward portion of the top wall." The term does not require that a "front baffle" be spaced apart from the perimeter of the mower deck. The front wall of the Toro Mower meets this limitation—it is a baffle that extends from a forward portion of the top wall. Thus, regardless of whether the structure is referred to as a "front wall" or a "front baffle," the Toro Mower meets the claim limitation.

75. The Toro Mower's adjustable baffle could be raised or lowered. The adjustable baffle has a series of slots that allow it to be raised or lowered relative to the front baffle to which it secures. Raising or lowering the adjustable baffle would affect airflow off the blades, allowing a better quality of cut under a wider variety of conditions. In response to changing conditions, the user could raise or lower the adjustable baffle as needed.

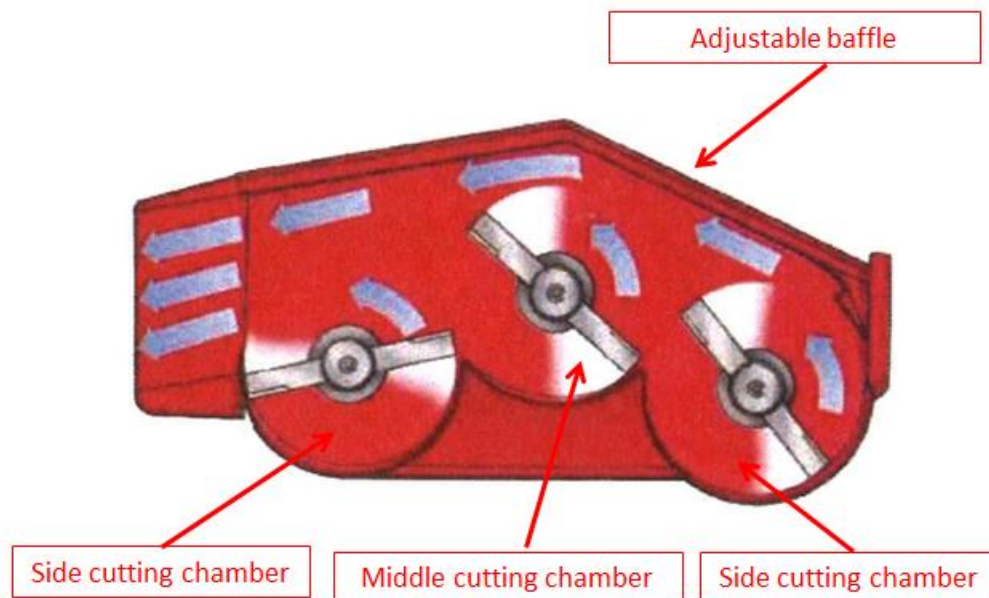
76. Each of the Two Adjustable Baffles Partially Defined Two Cutting Chambers.

The Toro Mower had three cutting blades, each with its own cutting chamber. TORO000017; TORO000048. Shown below is TORO000017 from the 1999 Parts Catalog, with each cutting circle marked in red:

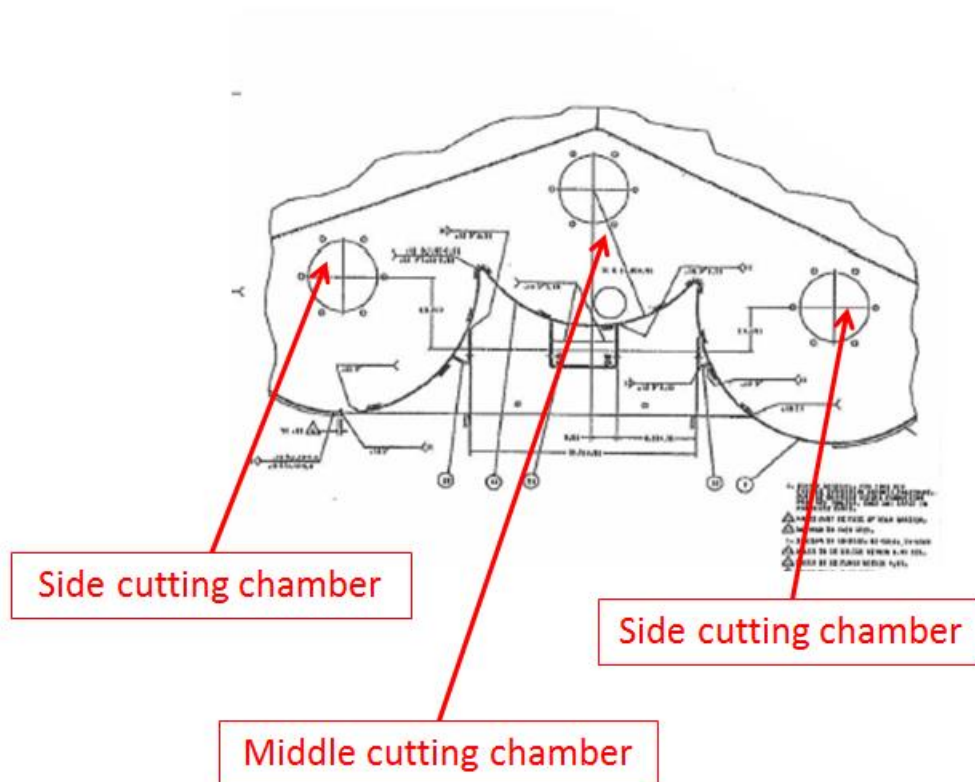


Deflector, Spindle And Pulley Assembly

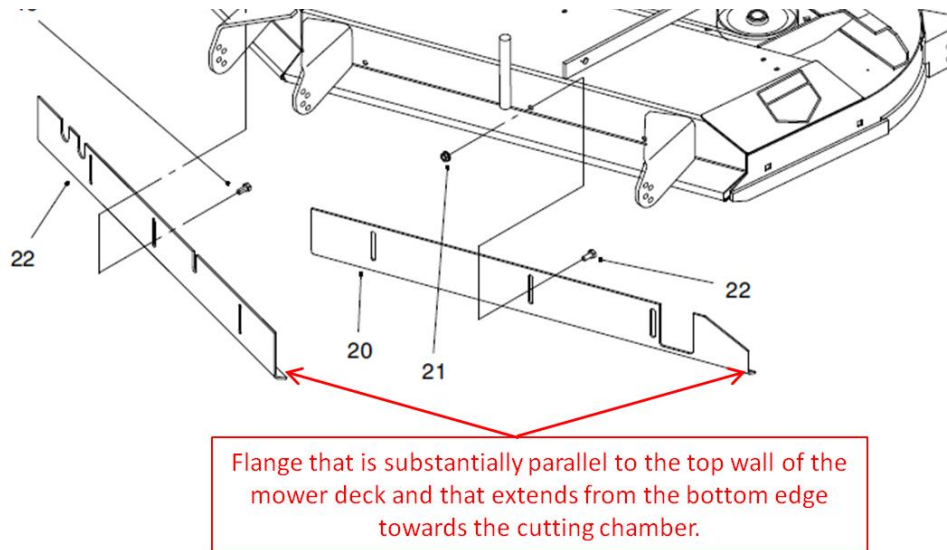
77. Each of the two adjustable baffles partially defines two cutting chambers—the middle cutting chamber and one of the two side cutting chambers. TORO000018; TORO000049. As shown below, this can also be seen at page 14 of the 1999 Toro Landscape Contractor Catalog, which shows underneath the mower deck of Toro Z Master Mid-Mount ZRTS mowers, like the Toro Mower:



78. The cutting chambers of the Toro Mower can also be seen in Exhibit E to the James Fear declaration, which are internal drawings for Part Numbers 99-4655 and 99-4595, showing the underneath of the deck of the Toro Mower. As can be seen below, there are three cutting chambers—one middle and two side chambers—with a path that extends uninterrupted along the bottom surface of the top wall through the cutting chambers and out of the discharge opening:



79. The Adjustable Baffle Had a Flange That Was Substantially Parallel to the Top Wall of the Mower Deck and That Extended Towards the Cutting Chambers. Each adjustable baffle had a flange, or a rim, that extended from the bottom edge of the adjustable baffle towards the cutting chamber. As shown in the 1999 and 2000 Parts Catalogs at TORO000018 and TORO000049, respectively, the flange was substantially parallel to the top wall of the mower deck:



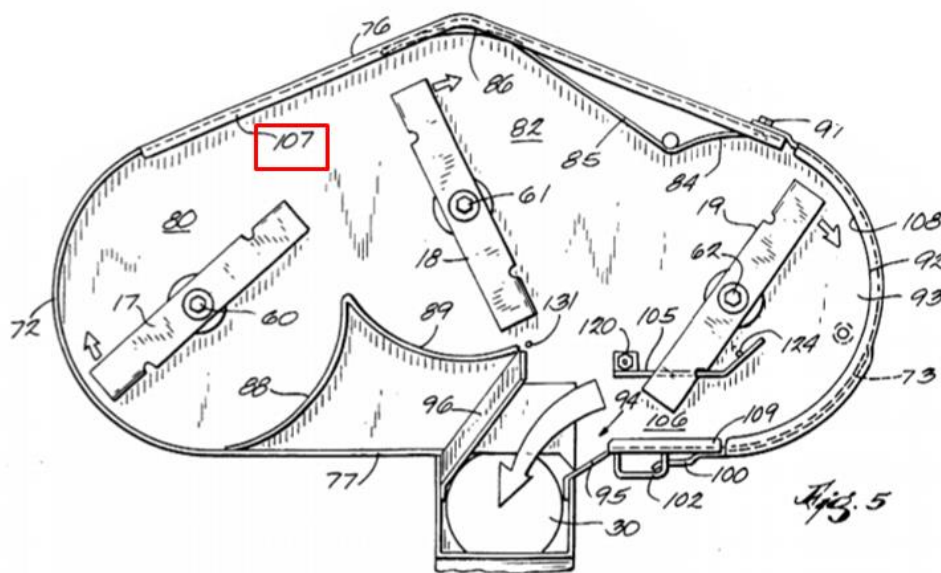
80. The flange at the bottom edge of the adjustable baffle would help reduce undesirable expulsion of air and grass clippings. In deciding whether a particular structure is present, a person of ordinary skill would focus on those structural and functional characteristics—what is it and what it does—rather than on the formal name it is called. As I describe in detail in the claim chart attached as Exhibit D, the flange of the Toro Mower meets every structural and functional claim limitation involving flanges.

81. I understand that Scag, in its Non-Invalidity Contentions, has argued that the Toro Mower’s flange is not a “flange” as claimed by the ’519 and ’962 patents. I disagree. The term “flange” has no special or limited meaning to a person of ordinary skill in this art. It is a very broad term that covers any and all ribs, rims, or lips. The shared specification of the ’519 and ’962 patents does not re-define the term or disclaim any of its breadth. ’519 patent, 6:64-7:23. Scag identifies only one reason why the flange of the Toro Mower should not be considered a “flange,” saying that the flange is partially obscured in the Parts Catalogs. Based on my decades of experience designing and developing mowers, however, I believe that the 1999 and 2000 Parts Catalogs clearly disclose a flange that runs a substantial portion of the length of the adjustable

baffle. There would be no reason to have the flange at the end section of the adjustable baffle, but not in the middle—and such an arrangement would have been exceedingly rare.

82. Regardless, however, Exhibit F to the James Fear declaration conclusively shows that the flange of the Toro Mower runs the entire length of the adjustable baffle. Mr. Fear describes Exhibit F as “internal drawings for Part Numbers 99-2833 and 99-2834, which show the deflector plates also shown in Exhibit B of the Fear Declaration and on page 15” of the 1999 Parts Catalog. Exhibit F clearly shows how the flange of both of the adjustable baffles runs the entire length of the baffle.

83. The Sugden Patent demonstrates that a person of ordinary skill would consider the Toro Mower’s flange to be a “flange” within the meaning of the asserted claims. The Sugden Patent teaches a flange 107 that is nearly identical to the Toro Mower’s flange, as seen in Figure 5 below:



84. As the Sugden Patent teaches, flanges like flange 107 provide a desirable airflow off the blades. Sugden Patent, 5:27-31. The flange 107, just like the Toro Mower’s flange,

would control airflow off the blades and prevent air and grass clippings from being expelled out from under the front wall of the mower deck.

85. The Sugden Patent and its terminology would have been familiar to the inventors of the Scag Patents, as the two inventors of the Scag Patents—David Sugden and Kevin Boeck—were also listed as inventors on the Sugden Patent. The Sugden Patent’s use of the term “flange” therefore would have been familiar to the inventors of the Scag Patents.

86. Accordingly, as I describe in detail in the claim chart attached as Exhibit D, it is my opinion that the Toro Mower anticipates all of the asserted claims.

VIII. It Would Have Been Obvious to Add Different Flanges to the Snapper and Toro Mowers

87. As I describe above, it is my opinion that the Snapper and Toro Mowers anticipate every asserted claim of the Scag Patents. Even if the Snapper and Toro Mower do not disclose a “flange,” as that term is used in the Scag Patents, none of the asserted claims would be valid—the flanges recited in the asserted claims would have merely been obvious modifications to the Snapper and Toro Mowers.

88. For over half a century, flanges have been a known and predictable way to prevent air and grass clippings from being blown out of the mower deck. U.S. Patent No. 2,659,191, for example, which issued in 1951, teaches a mower having flanges at the front portion that extend into the cutting chamber (at 3:43-46 & 4:12-17):

Rigidly secured to the lower edge of the attachment flange is the air current directing flange ... which extends inwardly toward the shaft disposed centrally of the housing....

....

I have found that by providing a small flange along the forward wall portion only of the housing, the air currents again will be directed upwardly to prevent the discharge of partially comminuted material ahead of the machine.

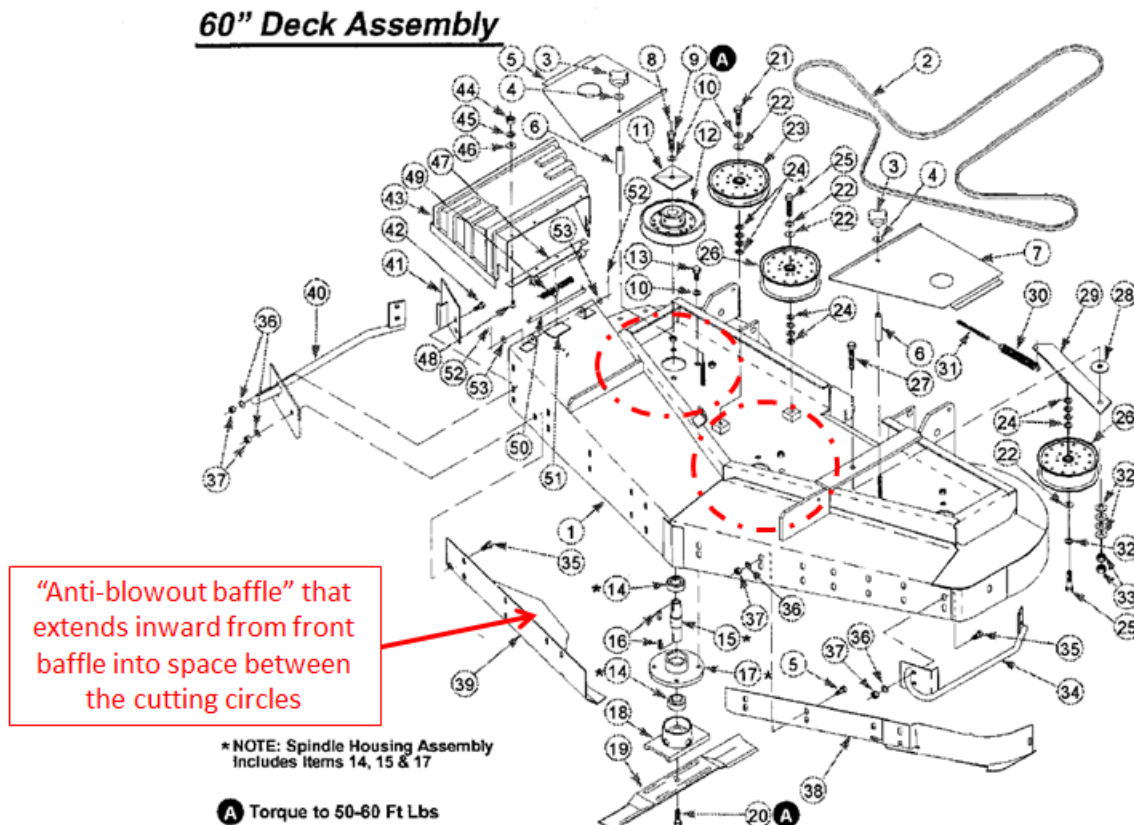
89. The '191 patent states that it is “imperative” that the flange extends “across *the forward wall portion* of the housing.” '191 patent, 4:17-23.

90. The limitations in the asserted claims involving flanges were all well-known in the prior art, representing, at most, obvious modifications of the Snapper and Toro Mowers. It would have been obvious for a person of ordinary skill to combine the Snapper or Toro Mower with a relatively large “flange” at the front of the mower that extends inward towards the cutting chambers, like that taught by the '191 patent, and to locate that “flange” in the generally triangularly shaped space between adjacent cutting circles. In fact, exactly such a flange was commonly used as of 2002. It even had a name: a “blowout” flange (or plate or baffle), because it protected against blowout of air and grass clippings from the front of the mower deck.

91. When designing and developing a flange for use on a mower deck, a person of ordinary skill would have needed to balance two known considerations: (1) the ability of the flange to prevent blowout, with (2) the propensity of the flange to clog the mower deck with grass clippings. Putting relatively large “blowout” flanges, like those taught in the '191 patent, in the space between two cutting chambers was a well-known way to balance these considerations. It was known that space between two cutting chambers is where a lot of the air and grass clippings would get blown out of the mower deck, so putting the relatively large “blowout” flanges there—and only there—would help prevent blowout, while also not causing as much clogging as they would if they ran across the entire front portion of the mower deck.

92. There were numerous examples of “blowout” baffles or plates in this field before 2002. One example is the Excel 2500 Compact Tractor and Mower Deck, whose Parts Manual is at S000427. The Parts Manual lists a revision date of June 1995 and, more generally, reflects how “blowout” baffles were a well-known and predictable structure to control airflow off the

blades. The Parts Manual discloses three mower decks—a 52 inch deck, 60 inch deck, and 72 inch deck—with each having an “anti-blowout” baffle, which is labeled 39, that extends inwards from the front towards and is located in the space between adjacent cutting circles. S000430-32.



93. Another example is U.S. Patent No. 4,543,773 (the “Reilly Patent”), which also teaches an “anti-blowout” plate to “substantially reduce blow-out” of air and grass out of the front of the mower deck. 2:35. As the Reilly Patent reflects, “blow-out” was a known problem, saying “[a]s a result of blow-out, it is often necessary to make a second pass with the mower deck to retrieve blown out grass.” 1:35-37. To “substantially reduce blow-out,” while also “reliev[ing] the propensity for clogging,” the Reilly Patent teaches a structure that was well-known and commonly used by 2002: “a plurality of blow-out plates 32 and 33 are strategically

located and fixably mounted by any conventional means to the front wall 25.” 2:35-40 (as shown below in Figure 1):

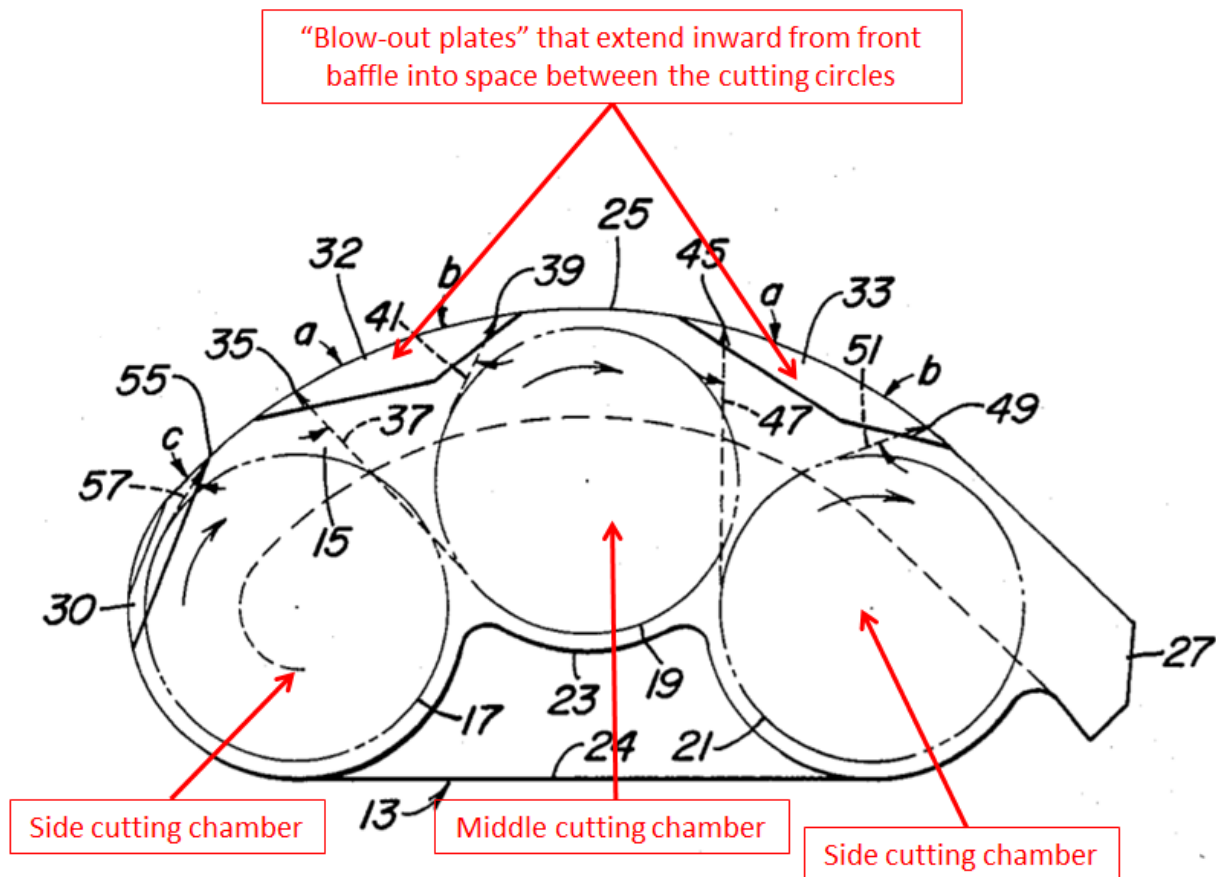


FIG. 1

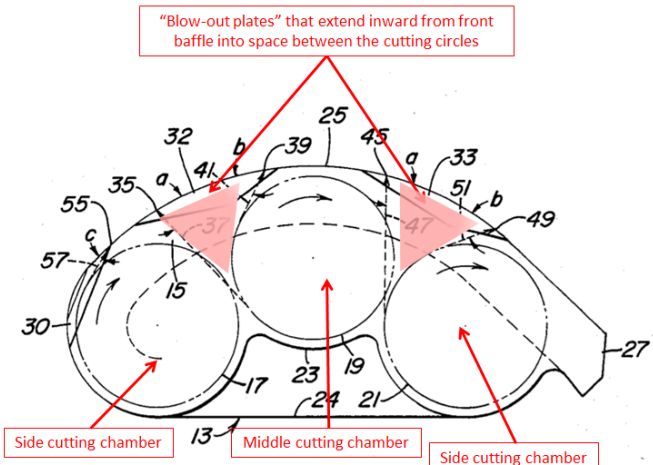
94. As Reilly teaches, “Each blow-out plate is strategically placed to prevent a substantial amount of grass blow-out during the mowing operation.” 1:66-68.

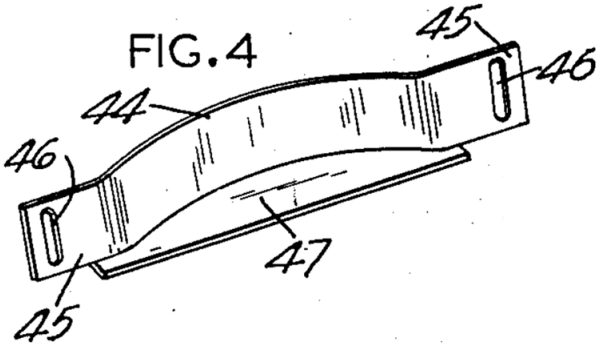
95. It therefore would have been obvious to add the flanges like those taught by the ’191 patent to the adjustable baffles of the Snapper and Toro Mowers and to locate them in the space between the cutting chambers. As the ’191 patent teaches, it was known to be desirable to add flanges to the *forward* portion of the cutting chamber. ’191 patent, 4:17-23. The adjustable baffles of the Snapper and Toro Mowers serve to partially define the forward portion of the cutting chambers. Thus, adding the relatively large flanges to the adjustable baffles of the

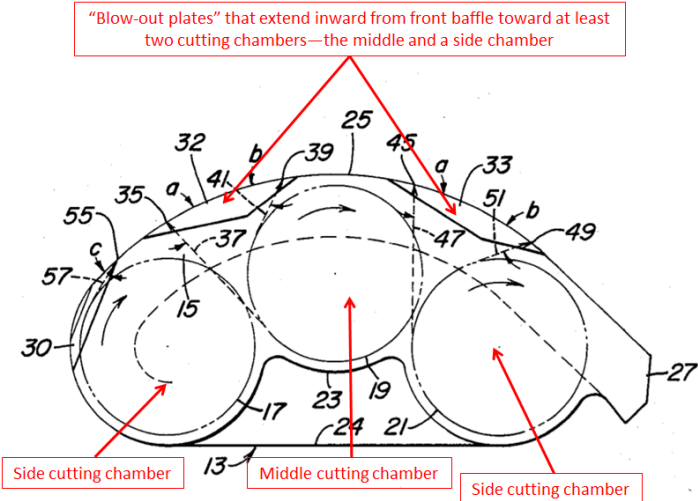
Snapper and Toro Mowers would serve to add them to the forward portion of the cutting chambers. A person of ordinary skill would only be concerned with what structures control the flow of air off the blades. Those are the important structures. The front wall and adjustable baffles of the Snapper and Toro Mowers are the flow-control structures in those mowers. Therefore, a person of ordinary skill would have added flanges to the bottom edge of the adjustable baffle, which is the part closest to the ground where the air or grass clippings would be blown out of the cutting chamber.

96. The flanges known and used as of 2002 render obvious all of the limitations in the asserted claims involving flanges, as shown in the chart below:

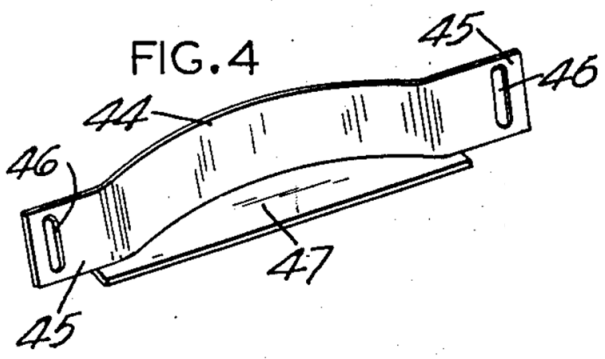
Claim Limitation Involving Flanges	Teaching in the Prior Art
<p>“a flange extending from the bottom edge of the first wall of the adjustable baffle toward at least one of the at least two cutting chambers”</p> <p>’519 Patent, Claim 8</p>	<p>The ’191 patent teaches flanges extending from the bottom edge of the forward wall portion of the housing toward the cutting chamber. For example, Figure 4, 3:43-46 & 4:12-17. A person of ordinary skill would only be concerned with what structures control the flow of air off the blades. Those are the important structures. The front wall and adjustable baffles of the Snapper and Toro Mowers are the flow-control structures in those mowers and, therefore, a person of ordinary skill would have selected the adjustable baffle to modify with flanges, which were a known and predictable way to prevent blowout.</p> <p>The Excel 2500 Mower Deck (S000431) and the Reilly Patent (1:55-68; 2:35-57; and Figures 1-2) also disclose flanges extending from the bottom edge of the front baffle toward the cutting chamber.</p>

Claim Limitation Involving Flanges	Teaching in the Prior Art
<p>“wherein the flange extends into a generally triangularly shaped space defined by the cutting circles and the front baffle to reduce the undesirable expulsion of air and grass clippings from the mower deck”</p> <p>’519 Patent, Claims 9 and 16</p>	<p>For the reasons I describe above, it would have been obvious to locate flanges like those taught by the ’191 patent into the triangularly shaped space defined by the cutting circles and the front baffle to reduce the undesirable expulsion of air and grass clippings from the mower deck. Locating the flanges there was a predictable way to balance two known considerations: (1) having the flange prevent blowout, while (2) not clogging the mower deck.</p> <p>As of 2002, there were numerous mower decks with “blowout” flanges extending into a generally triangularly shaped space defined by the cutting circles and the front baffle to reduce the undesirable expulsion of air and grass clippings from the mower deck. The Excel 2500 Mower Deck and the Reilly Patent both disclose this limitation. For example, the Reilly patent teaches, “Each blow-out plate is strategically placed to prevent a substantial amount of grass blow-out during the mowing operation.” 1:66-68. Shown below is Figure 1 from the Reilly Patent:</p>  <p>Figure 1 is a cross-sectional view of a mower deck assembly. It shows three cutting chambers: a 'Side cutting chamber' on the left, a 'Middle cutting chamber' in the center, and another 'Side cutting chamber' on the right. Each chamber is defined by a cutting circle (indicated by dashed lines) and a front baffle. Two 'Blow-out plates' are shown extending inward from the front baffle into the triangular space between the cutting circles. The plates are labeled with reference numerals 37 and 47. Various other components are labeled with numerals: 13, 15, 17, 19, 21, 23, 24, 25, 27, 30, 32, 33, 35, 39, 41, 43, 45, 49, 51, 55, 57. The caption 'FIG. 1' is centered below the diagram.</p>

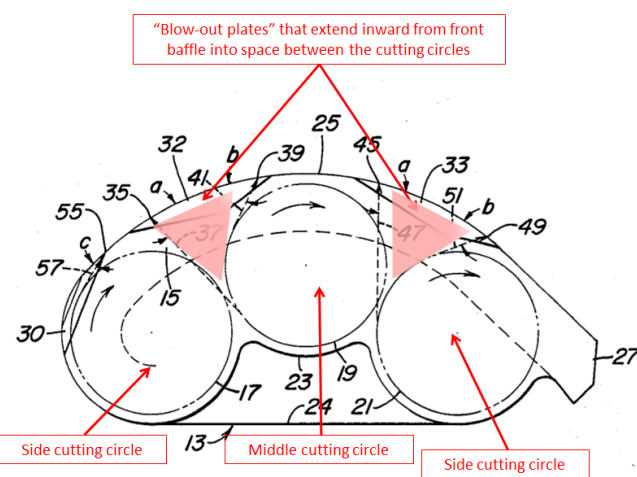
Claim Limitation Involving Flanges	Teaching in the Prior Art
<p>“wherein the flange extends substantially perpendicularly with respect to the first wall”</p> <p>’519 Patent, Claim 10</p>	<p>A flange with an orientation substantially perpendicular to the front wall would have been obvious, see for example the ’191 Patent at Figures 2 & 4.</p>  <p>FIG. 4</p> <p>Having the flange extend substantially perpendicularly with respect to the first wall was a predictable way to prevent blowout. That orientation was one that was known to direct airflow in a desirable way. The Excel 2500 Mower Deck and the Reilly Patent also disclose this limitation. See, for example, S000431 for the Excel 2500 Mower Deck or the Reilly Patent at 1:55-68; 2:35-57; and Figures 1-2.</p>

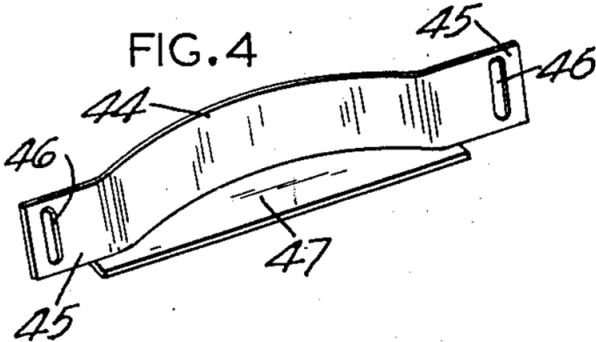
Claim Limitation Involving Flanges	Teaching in the Prior Art
<p>“a flange extending from the bottom edge of the first wall of the adjustable baffle toward the at least two cutting chambers”</p> <p>’519 Patent, Claim 13</p>	<p>The ’191 patent teaches flanges extending from the bottom edge of the forward wall portion of the housing toward the cutting chamber. For example, Figure 4, 3:43-46 & 4:12-17. A person of ordinary skill would only be concerned with what structures control the flow of air off the blades. Those are the important structures. The front wall and adjustable baffles of the Snapper and Toro Mowers are the flow-control structures in those mowers and, therefore, a person of ordinary skill would have selected the adjustable baffle to modify with flanges.</p> <p>The Excel 2500 Mower Deck (S000431) and the Reilly Patent (1:55-68; 2:35-57; and Figures 1-2) also disclose flanges extending from the bottom edge of the front baffle toward at least two cutting chambers. Shown below, for example, is Figure 1 from the Reilly Patent:</p>  <p style="text-align: center;">FIG. 1</p>

Claim Limitation Involving Flanges	Teaching in the Prior Art
<p>“a flange spaced from the top wall and extending into the cutting chambers toward the cutting circles”</p> <p>’519 Patent, Claim 14</p>	<p>The ’191 patent teaches flanges extending from the bottom edge of the forward wall portion of the housing toward the cutting chamber. For example, Figure 4, 3:43-46 & 4:12-17. A person of ordinary skill would only be concerned with what structures control the flow of air off the blades. Those are the important structures. The front wall and adjustable baffles of the Snapper and Toro Mowers are the flow-control structures in those mowers and, therefore, a person of ordinary skill would have selected the adjustable baffle to modify with flanges.</p> <p>The Excel 2500 Mower Deck (S000431) and the Reilly Patent (1:55-68; 2:35-57; and Figures 1-2) also disclose flanges spaced from the top wall and extending from the bottom edge of the front baffle into the cutting chambers toward the cutting circles.</p>

Claim Limitation Involving Flanges	Teaching in the Prior Art
<p>“wherein the flange extends substantially parallel to the top wall”</p> <p>’519 Patent, Claim 15</p>	<p>A flange with an orientation substantially parallel to the top wall would have been obvious, see for example the ’191 Patent at Figures 2 & 4.</p>  <p>FIG. 4</p> <p>Having the flange extend substantially parallel to the ground was a predictable way to prevent blowout. That orientation was one that was known to direct airflow in a desirable way. The Excel 2500 Mower Deck and the Reilly Patent also disclose this limitation. See, for example, S000431 for the Excel 2500 Mower Deck or the Reilly Patent at 1:55-68; 2:35-57; and Figures 1-2.</p> <p>This limitation merely reflects this orientation where the top wall of the mower deck is substantially parallel to the ground. Where the flange is parallel to the ground, and the top wall is also parallel to the ground, then the flange will also be parallel to the top wall.</p> <p>The Snapper Mower also demonstrates that it would have been obvious to make the “flange” substantially parallel to the top wall, as its “Lip” is substantially parallel to the top wall. For example, BASCO0079 & BASCO0271. Even assuming the Snapper’s “Lip” is not a “flange” (though I believe it is), the orientation of the “Lip” demonstrates the obviousness of this limitation.</p>

Claim Limitation Involving Flanges	Teaching in the Prior Art
<p>“wherein the adjustable baffle includes a bottom edge that is substantially parallel to the top wall, and wherein the flange extends from the bottom edge”</p> <p>’519 Patent, Claim 17</p>	<p>A Adjustable baffle that includes a bottom edge that is substantially parallel to the top wall with an orientation substantially parallel to the top wall was a known and predictable element in the prior art. See, above, § VI (Snapper Mower) & VII (Toro Mower). That the flange extends from the bottom edge would have been obvious, see for example the ’191 Patent at Figures 2 & 4.</p> <div data-bbox="824 583 1328 871" data-label="Image"> </div> <p>Having the flange extend substantially parallel to the ground was a predictable way to prevent blowout. That orientation was one that was known to direct airflow in a desirable way. The Excel 2500 Mower Deck and the Reilly Patent also disclose this limitation. See, for example, S000431 for the Excel 2500 Mower Deck or the Reilly Patent at 1:55-68; 2:35-57; and Figures 1-2.</p> <p>This limitation merely reflects this orientation where the top wall of the mower deck is substantially parallel to the ground. Where the flange is parallel to the ground, and the top wall is also parallel to the ground, then the flange will also be parallel to the top wall.</p> <p>The Snapper Mower also demonstrates that it would have been obvious to make the “flange” substantially parallel to the top wall, as its “Lip” is substantially parallel to the top wall. For example, BASCO0079 & BASCO0271. Even assuming the Snapper’s “Lip” is not a “flange” (though I believe it is), the orientation of the “Lip” demonstrates the obviousness of this limitation.</p>

Claim Limitation Involving Flanges	Teaching in the Prior Art
<p>“wherein the flange extends toward the cutting circles defined by the first and second cutting blades, and wherein the adjustable baffle includes an additional flange that extends toward the cutting circles defined by the first and third cutting blades”</p> <p>’519 Patent, Claim 19</p>	<p>It would have been obvious to locate flanges like those taught by the ’191 patent into the triangularly shaped space defined by the cutting circles and the front baffle to reduce the undesirable expulsion of air and grass clippings from the mower deck. Locating the flanges there was a predictable way to balance two known considerations: (1) having the flange prevent blowout, while (2) not clogging the mower deck. For a three-blade mower like the Snapper and Toro Mowers, it would have been obvious to have two “blowout” flanges—one on each side of the middle cutting chamber.</p> <p>As of 2002, there were numerous mower decks with “blowout” flanges extending into the triangularly shaped space defined by the cutting circles and the front baffle. The Excel 2500 Mower Deck and the Reilly Patent both disclose this limitation. For example, the Reilly patent teaches, “Each blow-out plate is strategically placed to prevent a substantial amount of grass blow-out during the mowing operation.” 1:66-68. Shown below is Figure 1 from the Reilly Patent:</p>  <p>Figure 1 is a top-down view of a mower deck assembly. It features three circular cutting circles: a central 'Middle cutting circle' (13) and two 'Side cutting circles' (15 and 17). A front baffle (25) is positioned at the top. Two 'Blow-out plates' (31 and 33) are shown as shaded triangular regions extending from the front baffle into the spaces between the cutting circles. Various other components are labeled with numbers: 32, 35, 39, 41, 45, 47, 49, 51, 55, 57, 30, 19, 23, 24, 21, 27, and 13. Section lines 'a-a', 'b-b', and 'c-c' are indicated. Red arrows and text boxes highlight the blow-out plates and the cutting circles.</p> <p>FIG. 1</p>

Claim Limitation Involving Flanges	Teaching in the Prior Art
<p>“wherein each flange extends substantially parallel to the top wall.”</p> <p>’519 Patent, Claim 20</p>	<p>A flange with an orientation substantially parallel to the top wall would have been obvious, see for example the ’191 Patent at Figures 2 & 4.</p>  <p>FIG. 4</p> <p>Having the flange extend substantially parallel to the ground was a predictable way to prevent blowout. That orientation was one that was known to direct airflow in a desirable way. The Excel 2500 Mower Deck and the Reilly Patent also disclose this limitation. See, for example, S000431 for the Excel 2500 Mower Deck or the Reilly Patent at 1:55-68; 2:35-57; and Figures 1-2.</p> <p>This limitation merely reflects this orientation where the top wall of the mower deck is substantially parallel to the ground. Where the flange is parallel to the ground, and the top wall is also parallel to the ground, then the flange will also be parallel to the top wall.</p> <p>The Snapper Mower also demonstrates that it would have been obvious to make the “flange” substantially parallel to the top wall, as its “Lip” is substantially parallel to the top wall. For example, BASCO0079 & BASCO0271. Even assuming the Snapper’s “Lip” is not a “flange” (though I believe it is), the orientation of the “Lip” demonstrates the obviousness of this limitation.</p>

Claim Limitation Involving Flanges	Teaching in the Prior Art
<p>“wherein the adjustable baffle has at least one flange extending horizontally from a vertical portion thereof”</p> <p>’962 Patent, Claim 3</p>	<p>The flange of the ’191 patent extending horizontally from a vertical portion of the baffle or housing to which it secures. For example, Figure 4, 3:43-46 & 4:12-17. The Excel 2500 Mower Deck (S000431) and the Reilly Patent (1:55-68; 2:35-57; and Figures 1-2) also disclose flanges extending horizontally a vertical portion of a baffle or housing.</p>

97. Accordingly, for the reasons described above, the recited flanges in the asserted claims are no more than an obvious modification of the Snapper and Toro Mowers. The recited flanges were known structures for predictably controlling the airflow off the blades of the mower.

IX. Conclusion

98. For the reasons I describe above, it is my opinion that the Snapper and Toro Mowers both anticipate all of the asserted claims of the Scag Patents. However, even if those mowers do not disclose “flanges,” as that term is used in the Scag Patents (though I believe they do), then the asserted claims still would have been obvious. The limitations of the asserted claims that involve flanges recite nothing more than a well-known structure that a person of ordinary skill would have used to predictably prevent blowout of air and grass clippings from the front of the mower deck.

I reserve the right to modify or update any opinion in this report and supplement or amend this report if relevant new information is obtained in discovery or if any relevant development occurs in this case.

Dated: April 6, 2018


 Denis Del Ponte

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF WISCONSIN

METALCRAFT OF MAYVILLE, INC. d/b/a
SCAG POWER EQUIPMENT,

Case No. 2:16-CV-00903

Plaintiff,

v.

ARIENS COMPANY,

Defendant.

CERTIFICATE OF SERVICE

I, Matthew M. Wuest, certify that, under penalty of perjury, on the 6th day of April, 2018, I caused to be served a copy of the foregoing Expert Report of Denis Del Ponte on the Invalidity of the Patents-in-Suit in the above-captioned matter upon counsel listed below via email:

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/s/ Matthew M. Wuest
Matthew M. Wuest

EXHIBIT B

In preparing my report, I have considered at least the following documents:

- The patents-in-suit, U.S. Patent Nos. 6,892,519 & 6,996,962;
- The prosecution histories of the patents-in-suit;
- The prosecution history of Reexamination No. 90/013,976, involving the '962 patent;
- Declaration submitted by William Lowe and associated exhibits, including the Snapper Mower Safety Instructions & Operator's Manual (BASCO0092), Parts Manual (BASCO0228), Service Manual (BASCO0014), and production drawings (including BASCO0442-0444);
- Declaration submitted James Fear and associated exhibits, including the Toro Mower 1999 Parts Catalog (TORO000001), 2000 Parts Catalog (TORO000033), and internal parts drawings;
- U.S. Patent No. 2,659,191;
- U.S. Patent No. 5,465,564;
- U.S. Patent No. 4,543,773;
- U.S. Patent No. 6,192,666;
- U.S. Patent No. 5,845,475;
- U.S. Patent No. 5,791,132;
- The Dixie Chopper XW Model Parts Manual (S000302-308);
- The Excel 2500 Compact Parts Manual (S000427-433);
- John Deere Commercial Mowing Equipment Catalog (S000664);
- Scag's Complaint in this lawsuit, filed July 12, 2016;
- Arien's Invalidity Contentions and First-, Second-, and Third-Supplemental Invalidity Contentions;
- Scag's Non-Invalidity Contentions (dated March 2, 2017);
- Court's Decision and Order on Claim Construction (dated January 4, 2018);
- Protective Order in this lawsuit;
- Scag's Response to Second Discovery Requests (dated May 15, 2017);
- Scag's Supplemental Responses to Ariens Discovery (dated May 9, 2017);
- Scag's responses to 1st Discovery Requests (dated March 24, 2017);
- And any other documents cited in my report.